

REMARKS

Status of Claims:

Claims 5 and 16 remain cancelled. Thus, claims 1-4, 6-15, and 17-28 are present for examination.

Allowable Subject Matter:

Applicant expresses appreciation to the Examiner for the indication that claims 25-27 are allowed.

Applicant expresses further appreciation to the Examiner for the indication that claims 9, 10, 20, 21, and 28 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Interview Summary:

Applicant expresses appreciation to the Examiner for the courtesy of the telephonic interview on July 31, 2006. The following individuals participated in the interview: (i) Examiner Wang; and (ii) Justin Sobaje, attorney for applicant.

During the interview, applicant focused on FIGs. 1 and 13 of the Sudo et al. reference (U.S. Patent No. 6,363,101) (hereinafter Sudo). Applicant noted that, in the present Office Action, the Examiner pointed to the finger circuits 402, 404, and 406 of the device of Sudo as disclosing the finger circuit elements of claim 1 of the present application. With reference to FIG. 13 of Sudo, applicant explained that the finger circuits 402, 404, and 406 of the device of Sudo are part of the rake demodulation unit 40, where the location of the rake demodulation unit 40 is shown in FIG. 1 of Sudo. Also, with reference to FIG. 13 of Sudo, applicant explained that the demodulated outputs of each of the finger circuits 402, 404, and 406 in the device of Sudo are combined by the combining unit 409.

Applicant pointed to the claim language of claim 1 of the present application, and emphasized the feature, “wherein the rake circuit includes a level judgment circuit for executing electric field level judgment **based on the correlated received signals output**

from the plurality of finger circuit elements and a predetermined threshold level”.

(Emphasis Added). Applicant noted that in the present Office Action, the Examiner pointed to column 8, line 56 – column 9, line 1 of Sudo as disclosing such a feature.

The interview discussion then focused on column 8 of the Sudo reference. Applicant explained that the judgment described at column 8, lines 56-58 of the Sudo reference is performed based on an envelope value calculated by the **PN code phase calculation means 46** when the PN code phase calculation means 46 despreads waveform data provided by the **waveform storage means 45**. Applicant pointed to FIG. 1 of Sudo to explain that the waveform data stored in the waveform storage means 45 is merely a received signal from the receiving unit 3, and is **not** a demodulated output signal from any of the finger circuits 402, 404, and 406. In fact, by studying FIGs. 1 and 13 of the Sudo reference, it is apparent that the demodulated output signals from the finger circuits 402, 404, and 406 in the rake demodulation unit 40 are **never** provided to the waveform storage means 45 or the PN code phase calculation means 46.

Thus, applicant explained that the judgment described at column 8, lines 56-58 of the Sudo reference is **not** an electrical field level judgment **based on the demodulated output signals output from the finger circuits 402, 404, and 406**.

Moreover, applicant explained that the PN code phase calculation means 46 calculates the PN code phase during a time period t3, while operation of the rake demodulation unit 40 that includes the finger circuits 402, 404, and 406 is stopped during the time period t3, so the finger circuits 402, 404, and 406 would **not** even be providing outputs at that time for an electric field level judgment.

The Examiner stated that he would need to re-read column 8 of the Sudo reference to confirm applicant’s understanding. The Examiner further stated that applicant should submit a formal reply with the remarks presented during the interview.

No exhibits were shown and no demonstrations were conducted during the interview.

Claim Rejections under 35 U.S.C. 103:

Claims 1-4, 8, 11-15, 19, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo et al. (U.S. Patent No. 6,363,101) (hereinafter Sudo) in view of Nakajima et al. (U.S. Patent No. 5,487,083) (hereinafter Nakajima).

Claims 6, 7, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo and Nakajima and further in view of Ishikura (U.S. Patent No. 5,239,684).

With respect to claims 1-4, 6-8, 11-15, 17-19, and 22-24, the rejections are respectfully traversed.

Independent claim 1 recites a receiving terminal for a CDMA system, comprising:

“a finger circuit having a plurality of finger circuit elements, each of said plurality of finger circuit elements for making a correlation between a received signal from a radio circuit connected to an antenna and a known signal and for outputting a correlated received signal as a result of the correlation; and

a rake circuit for combining the correlated received signals output from the plurality of finger circuit elements to provide a synthesized received signal;

wherein the rake circuit includes a level judgment circuit for executing electric field level judgment based on the correlated received signals output from the plurality of finger circuit elements and a predetermined threshold level; and

wherein an operation of at least one finger circuit element of the plurality of finger circuit elements can be suspended for a fixed, predetermined time period according to the result of the electric field level judgment.” (Emphasis Added).

A receiving terminal for a CDMA system including the above-quoted features has at least the advantages that: (i) each of a plurality of finger circuit elements allow for making a correlation between a received signal from a radio circuit connected to an antenna and a known signal and for outputting a correlated received signal as a result of the correlation; (ii) a rake circuit allows for combining the correlated received signals output from the plurality of finger circuit elements to provide a synthesized received signal; (iii) the rake circuit includes

a level judgment circuit for executing electric field level judgment **based on the correlated received signals output from the plurality of finger circuit elements** and a predetermined threshold level; and (iv) an operation of at least one finger circuit element of the plurality of finger circuit elements can be suspended for a fixed, predetermined time period according to the result of the electric field level judgment. (Specification as Filed; page 7, lines 2-12; page 8, lines 1-14; page 8, line 26 to page 14, line 18; FIGs. 1, 2, 5A, 5B, and 7).

Neither Sudo nor Nakajima, alone or in combination, disclose or suggest a receiving terminal for a CDMA system including the above-quoted features.

The Examiner points to the finger circuits 402, 404, and 406 illustrated in FIG. 13 of Sudo as disclosing a plurality of finger circuit elements. (Office Action; page 4). The Examiner then points to column 8, line 56 – column 9, line 1 of Sudo as disclosing, “wherein the rake circuit includes a level judgment circuit for executing electric field level judgment **based on the dispreading signals output from the plurality of finger circuit elements** and a predetermined threshold level”. (Office Action; page 4) (Emphasis Added).

However, the device of Sudo does not allow for executing electric field level judgment **based on the demodulated output signals of the finger circuits 402, 404, and 406**. (Sudo; FIGs. 1 and 13). The judgment described at column 8, lines 56-58 of the Sudo reference is performed based on an envelope value calculated by the **PN code phase calculation means 46** when the PN code phase calculation means 46 despreads waveform data provided by the **waveform storage means 45**. (Sudo; abstract; column 7, line 66 to column 8, line 58). The waveform data stored in the waveform storage means 45 is merely a received signal from the receiving unit 3, and is **not** a demodulated output signal from any of the finger circuits 402, 404, and 406. (Sudo; FIG. 1; column 6, lines 13-16; column 8, lines 3-8). In fact, by studying FIGs. 1 and 13 of the Sudo reference, it is apparent that the demodulated output signals from the finger circuits 402, 404, and 406 in the rake demodulation unit 40 are **never** provided to the waveform storage means 45 or the PN code phase calculation means 46. (Sudo; FIGs. 1 and 13).

Thus, the judgment described at column 8, lines 56-58 of the Sudo reference is not an electrical field level judgment based on the demodulated output signals output from the finger circuits 402, 404, and 406. (Sudo; column 7, line 66 to column 9, line 3; FIGs. 1 and 13).

Moreover, the PN code phase calculation means 46 calculates the PN code phase during a time period t3, while operation of the rake demodulation unit 40 that includes the finger circuits 402, 404, and 406 is stopped during the time period t3, so the finger circuits 402, 404, and 406 would not even be providing outputs at that time for an electric field level judgment. (Sudo; abstract; column 11, lines 50-62).

Furthermore, Nakajima does not cure the deficiencies with respect to the teaching of Sudo discussed above. In the system of Nakajima, a mobile station is provided with two correlators 14 and 15. (Nakajima; abstract). Also, in the system of Nakajima, if a received signal level lowers when the mobile station stays in a radio zone 2a and is in conversation over the channel of a frequency f2, the mobile station switches the communication to a channel of a common frequency f1 and continues the communication using one of the correlators, while at the same time the mobile station scans spectrum spreading codes for control channels of the respective radio zones by the other correlator for measuring the received signal levels of the control channels. (Nakajima; abstract).

It is not clear how the system of Nakajima would be combined with the system of Sudo. The Examiner merely points to Nakajima for the proposition that, “dispredding with PN code is a correlation”. (Office Action; page 5). Since the calculation by the PN code phase calculation means 46 in the device of Sudo is not based on the demodulated output signals provided by the finger circuits 402, 404, and 406, it is irrelevant whether or not dispredding with PN code is a correlation.

Therefore, independent claim 1 is neither disclosed nor suggested by the Sudo and Nakajima references and, hence, is believed to be allowable. The Patent Office has not made out a *prima facie* case of obviousness under 35 U.S.C. 103.

Independent claim 11 recites a receiving terminal with features similar to features of a receiving terminal of independent claim 1 and, thus, is believed to be allowable for at least the same reasons that independent claim 1 is believed to be allowable.

Independent claim 12 recites a receiver with features similar to features of a receiving terminal of independent claim 1 and, thus, is believed to be allowable for at least the same reasons that independent claim 1 is believed to be allowable.

Independent claim 22 recites a receiver with features similar to features of a receiving terminal of independent claim 1 and, thus, is believed to be allowable for at least the same reasons that independent claim 1 is believed to be allowable.

Independent claim 23 recites a receiving method with features similar to features of a receiving terminal of independent claim 1 and, thus, is believed to be allowable for at least the same reasons that independent claim 1 is believed to be allowable.

Independent claim 24 recites a receiving method with features similar to features of a receiving terminal of independent claim 1 and, thus, is believed to be allowable for at least the same reasons that independent claim 1 is believed to be allowable.

The dependent claims are deemed allowable for at least the same reasons indicated above with regard to the independent claims from which they depend. It is also noted that, with regard to dependent claims 6, 7, 17, and 18, Ishikura does not cure the deficiencies with respect to the teachings of Sudo and Nakajima discussed above.

Conclusion:

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

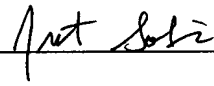
The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment,

to Deposit Account No. 50-0872. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-0872.

If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-0872.

Respectfully submitted,

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